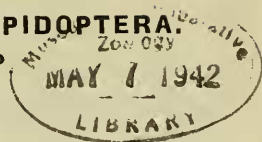


NEW ABERRATIONS OF BRITISH MACROLEPIDOPTERA.

By E. A. COCKAYNE, D.M., F.R.C.P.

(Plate II.)

13,820



Looking at my collection recently I saw several aberrations of British Macrolepidoptera which seemed to me to be worthy of a name, and I am taking this opportunity of describing and naming them.

Notodonta dromedarius, L., ab. **niger**, ab. nov.

Forewings nearly black with faint rust coloured markings in the usual situations, but with the pale transverse lines absent; thorax and abdomen nearly black; hindwings greyish black; under surface grey-black with the pale transverse lines obsolete or nearly so.

Type. Female. Near Manchester. Bred vii.1938. B. H. Crabtree.

Paratype. Male from the same locality bred vii.1939. B. H. Crabtree.

Mr Crabtree tells me that the form occurred regularly in a restricted locality, but that most of the birches there have been destroyed since the outbreak of war. I have also seen specimens from Formby.

It is much blacker on both surfaces than either ab. *perfuscus*, Haw. (*Lep. Brit.*, 1803, p. 100; Stephens *Ill. Brit. Lep.*, Pl. 14, fig. 2) or ab. *hibernica*, Caradja (*Iris*, 1895, 8, 97). The latter, if I have identified it correctly, is slightly darker on the upper surface than ab. *perfuscus* and it lacks the pale transverse lines and other markings, and on the under surface is dark brown with the pale transverse lines indistinct. I bred this form in 1902 from Sheffield larvae and I believe it to be widely distributed in the north of England. It is said to occur also in Scotland and Ireland.

Cerura hermélina, Goeze (*bifida*, Hb.), ab. **costimacula**, ab. nov.

The median band is reduced to a single mark on the costa reaching the median nervure and a few black scales beyond it; the costal mark is outlined by a complete narrow orange stripe.

Type. Female. Bedford. 19.v.1909. Bred by W. S. Brocklehurst (fig. 5).

This beautiful form is a further development of ab. *intervalla*, Kosh., in which the median band is broken into a costal and an inner marginal part (*Jahrb. Mus. Martjan*, 7, 71).

Cerura hermélina, Goeze, ab. **laticincta**, ab. nov.

The median band is extended outwards to the discoidal spot.

Type. Male. Locality unknown. C. A. Briggs and Vauncey Harpur Crewe collections (fig. 7).

Phalera bucephala, L., ab. **olivapicata**, ab. nov.

In the apical area buff is replaced by bluish green or olive green, whilst the rufous part is either blackish brown or is unchanged in colour.

Type. Male. Forres. Bred. British Museum (Tring). *Entomologist*, 1907, 40, 217, text figure.

Paratype. Female. Ramford. 11.vi.1895. Hanbury Coll.

Spilosoma lubricipeda, L. (*menthastri*, Esp.), ab. **nigrescens**, ab. nov.

The fore and hindwings and thorax are greyish black; the abdomen is normal, orange with black spots on the upper surface, white on the sides and under surface with the usual lateral black marks.

Type. Male. Walthamstow. Bred by C. L. Withycombe and given to me shortly before his death (fig. 9).

The specimen has not the deep smoky blackish brown colour of the male taken near Leeds by Landcave and figured by Mosley (Pl. 51, fig. 1), and in this specimen such scales as remain on the abdomen are blackish brown. Presumably it is a different mutation.

Naenia typica, L., ab. **albifusa**, ab. nov.

There is a great increase in the white in the median band, external to the antemedian and internal to the postmedian from nervure 4 to the inner margin, where these two white stripes unite, and also along the costa. In other respects the moth is normal.

Type. Female. Chelford, Cheshire, 26.vii.1930. E. Aubrook. Crabtree coll. (fig. 10). There is a similar specimen, taken in S. Yorkshire by G. T. Porritt, figured in Barrett *Brit. Lep.*, vol. v, Pl. 217, fig. 1c.

Chloroclysta siterata, Hufn., ab. **fasciata**, ab. nov.

The basal area and median band are blackish green except for a light green area round the discoidal spot. The rest of the forewing is much paler than usual and almost devoid of markings. There is a fairly distinct transverse band on the hindwing.

Type. Female. New Forest. W.H.H.; Hanbury coll. (fig. 4).

I have two males and have seen several other specimens of this form. Mr Austin Richardson showed a fine example at the Annual Exhibition of the South London Entomological Society, 1941. Evidently this banded form is not sex-linked like that of *Oporinia dilutata*.

Erannis defoliaria, Cl., ab. **pallidaria**, ab. nov.

The markings are the same as in the dark banded form ab. *obscura*, Dahlström, but the basal area and the bands are very pale and show a varying mixture of pale bluish grey and pale reddish brown. The freckles are reduced in number and almost invisible without a lens owing to their pale colour.

Type. Male. Chingford. 10.xii.1938. E. A. Cockayne.

Paratype. Male. Loughton. 21.xii.1929. E. A. Cockayne.

Both are in bred condition and are the only ones I have taken. The bands in ab. *obscura* from Epping Forest are unusually dark, and the existence of this dilute mutation is very interesting.

Erannis defoliaria, Cl., ab. **tangens**, ab. nov.

The pale median area is broken by a union between the ante and postmedian bands midway between nervures 1 and 2.

Type. Male. Loughton. 18.xii.1926. E. A. Cockayne (fig. 8). This is the only specimen I have seen and it must be a rare form.

Ennomos quercinaria, Hufn., ab. **clara**, ab. nov.

The basal, antemedian, and postmedian lines are absent. There is an ill-defined brown area at the base of the forewings and a complete broad brown marginal band; the discoidal spot is small and indistinct.

Type. Male. Bedford. 4.ix.1909. W. S. Brocklehurst (fig. 2).

I have not seen another example of this fine aberration.

Boarmia punctinalis, Scop., ab. **conspicuata**, ab. nov.

This is a pale weakly marked form with a strongly developed broad wavy subterminal line in both fore and hindwings. The W-mark between nervures 4 and 6 in the forewings is very distinct.

Type. Female. New Forest. 15.v.1904. Bred. Hanbury Coll. (fig. 3).

Paratypes. Two males, bred 15 and 17.v.1904; three females, two bred 15.v.1904, and one 18.v.1904, Hanbury Coll.; one female, vi.1904, L. F. Hill; and one female, vi.1906, Harwood. All are from the New Forest and probably those from the Hanbury collection formed part of the same brood.

Cleora repandata, L., ab. **coarctata**, ab. nov.

The ground colour is a soft brown with none of the usual speckling, and on the forewing the transverse lines are concentrated to form a narrow black median band, which is widest at the discoidal spot.

Type. Female. Whitby, 1909. Massey Coll. (fig. 1).

Paratype. Female with the same data.

Dyscia fagaria, Thnbg. (*belgiaria*, Hb.), ab. **signata**, ab. nov.

All the dark markings on the forewing are greatly intensified; the ante and postmedian lines are very broad and unite towards the inner margin, the discoidal spot is large, and the spots external to the postmedian are increased in size. In the median area there is black scaling along the subcostal and median nervures and nervure 2. In the hindwing the postmedian is well defined and there is some black scaling along the nervures in its vicinity.

Type. Female. New Forest. F. Gulliver. Crabtree Coll. (fig. 6).

Zygaena trifolii, Esp., ab. **carnea**, ab. nov.

The red colour on both fore and hindwings is replaced by pink.

Type. Male. Bagley Wood, Oxford. 27.vi.1904. Bred by E. A. Cockayne.

This is comparable with *Z. lonicerae*, ab. *carnea*, Spuler (*Schmett. Europ.*, p. 164).

LEGEND.

- Fig. 1. *Cleora repandata*, ab. *coarctata*.
 Fig. 2. *Ennomos quercinaria*, ab. *clara*.
 Fig. 3. *Boarmia punctinalis*, ab. *conspicuata*.
 Fig. 4. *Chloroclysta siterata*, ab. *fasciata*.
 Fig. 5. *Cerura hermelina*, ab. *costimacula*.
 Fig. 6. *Dyscia fagaria*, ab. *signata*.
 Fig. 7. *Cerura hermelina*, ab. *laticincta*.
 Fig. 8. *Erannis defoliaria*, ab. *tangens*.
 Fig. 9. *Spilosoma tubricipeda*, ab. *nigrescens*.
 Fig. 10. *Naenia typica*, ab. *albifusa*.

PUPAL MANDIBLES IN THE CURCULIONIDAE.

By H. DONISTHORPE, F.R.E.S., F.Z.S., etc.

(Continued from p. 23.)

Lesne in 1899 publishes evidence which seems to show that in *Barypeithes pellucidus*, Boh., at least, these mandibles are used to enable the newly hatched beetle to dig its way out of the soil:—" Parmi les Curculionides, la vaste sous-famille des *Brachyrrhinidae* est caractérisée par la présence, chez l'adulte, au moment de l'éclosion, d'appendages fortement chitinisés, généralement pointus au bout et incurvés dedans, qui sont insérés dans la partie apicale et sur la face externe de chaque mandibule. Ces appendices tombent d'ordinaire peu de temps après l'éclosion. D'ailleurs, chez la nymphe, leur développement complet paraît précéder celui de toutes les autres parties du squelette.

Il ne semble pas que l'on ait encore déterminé le rôle dévolu à ces organes transitoires. C'est pourquoi nous croyons utile de faire connaître l'observation suivante.

Vers la fin du mois d'avril 1890 nous avons en l'occasion de récolter dans un jardin, à Asnières (Seine), les premiers états de l'*Exomias pellucidus*, Bohem. L'insecte vivait à une petite profondeur dans le sol, au pied d'un Marronnier d'Inde. Ayant placé dans des tubes de verre remplis de terre des nymphes âgées et des adultes fraîchement, éclos et munis encore de leur appendices mandibulaires, nous pûmes nous rendre compte de la façon dont l'insecte parfait se fraie un passage vers la surface du sol. Arc-bouté dans sa loge souterraine, le Charançon écarte ses mandibules et saisit un grain de sable entre leurs longs appendices; il reploie ensuite la tête sous le prothorax et dépose le grain entre ses pattes antérieures. Puis il saisit un second grain de sable, le dépose encore audessous de lui, puis un troisième, et creuse ainsi peu à peu un terrier qui se comble au fur et à mesure en arrière. Cette observation a été répétée à plusieurs reprises. Elle montre que chez l'*Exomias pellucidus* au moins, les appendices transitoires dont nous parlons sont des organes de fouissage d'un genre tout particulier."

In 1936 van Emden demonstrated that certain genera, *Sitonos*, *Eugnathus*, etc., in the *Sitonini* possess homologous organs to the pupal mandibles in the *Brachyderinae*, which shows that they are more nearly related to that sub-family than was supposed by many authors hitherto: " Das Museum für Tierkunde zu Dresden besitzt nun einen *Eugnathus alternans*, Fhrs. von Singapur mit Mandibelanhäng. Letzteres Gebilde (Abb.1.) sieht zwar wesentlich anders aus als bei *Psolidium* usw., vermag aber doch vielleicht die Kluft zwischen den *Brachyderinae* und *Sitonini* zu verkleinern. Freilich lässt es andererseits die Annahme zu, dass auch *Phanerognatha* ein solches Anhangsorgan besitzen können, das eben bloß äusserst selten erhalten bleibt²). Zudem lässt nur die übergreifende linke Mandibel den Anhang zu wenigstens im Imagoleben, und die Narbe, die nach seinem Abfallen zurückbleibt, ist an den meisten Stücken infolge Abnutzung der Mandibelschneide verschwunden. Sehr frische *Eugnathus* lassen sie jedoch recht deutlich erkennen. Frische *Sitona* besitzen an der entsprechenden Stelle, die hier zwischen den beiden Spitzenzähnen der linken Mandibel liegt, ein etwas mattes Grübchen, das wohl ein Überrest der Narbe sein dürfte. Bei den *Pachyrrhynchini*, denen eine eigentliche Mandibelnarbe ebenfalls fehlt,